REMARKS/ARGUMENTS

Claims 20-38 are pending in the application. Claims 20 and 33 were objected to. Claims 20-26 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claims 20-25 and 27-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,963,979 to Dauphinee ("Dauphinee"). Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Dauphinee in view of BATS methods – April 1997 ("BATS methods"). Claim 38 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Dauphinee in view of U.S. Patent No. 3,491,287 to Brown ("Brown").

Claims 20 and 33 have now been amended. No new matter has been added.

Reconsideration of the application in view of the above amendments and following remarks is respectfully requested.

Information Disclosure Statement

Applicant filed an Information Disclosure Statement on February 4, 2002, but the Office has not initialed and returned Applicant's form 1449. Applicant respectfully requests that the Office consider the references cited in Applicant's Information Disclosure Statement filed on February 4, 2002, and initial and return the form with the next Office Action.

Objections to Claims 20 and 23

Claims 20 and 33 were objected to for informalities. Claims 20 and 33 have now been amended to correct the informalities.

The reconsideration and withdrawal of the objection to claims 20 and 33 is respectfully requested.

Rejection Under 35 U.S.C. § 101

Claims 20-26 were rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Claim 20 has now been amended in response to the Office's Statement that "it

is unclear what specification apparatus is performing the arranging, measuring and controlling steps" and to clarify that that claim 20 is directed to statutory subject matter. See Office Action dated March 23, 2010, page 3. Support for the amendments to claim 20 may be found in the original Specification as filed, for example at page 25, line 7 and page 27, lines 7-8, and in Fig. 1. Claims 21-26 depend directly or indirectly from claim 20 and are directed to statutory subject matter for at least the same reasons as claim 20.

The reconsideration and withdrawal of the rejection of claims 20-26 under 35 U.S.C. § 101 is respectfully requested.

Rejections Under 35 U.S.C. § 103

Claims 20-25 and 27-37 were rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 3,963,979 to Dauphinee ("Dauphinee"). Claim 26 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Dauphinee in view of BATS methods – April 1997 ("BATS methods"). Claim 38 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Dauphinee in view of U.S. Patent No. 3,491,287 to Brown ("Brown").

Dauphinee is directed to a liquid conductivity measuring apparatus with electric heating 19a and electric cooling 19b to maintain the temperature of liquid in a controlled water bath 15. See Dauphinee, col. 2, lines 24-65 and FIG. 1.

Independent claim 20 of the present application, as amended, recites

...

> measuring with a thermometer the actual temperature (ϑ_B) as an equivalent of the temperature (ϑ_p) of the sample at a high repetitive accuracy and with a maximum permissible lag error ($\Delta\vartheta_{max}$) between the temperature of the water bath and sample temperature (ϑ_b, ϑ_p) set by the required accuracy of determining the salinity (S), a control parameter for taking into account the thermal conditions being the time-wise drift ($\alpha = \Delta\vartheta_B/t$) of the temperature ($\vartheta_B$) derivable from the temperature measurements, the permissible maximum value (α_{max}) of which is defined as the quotient ($\alpha_{max} = \Delta\vartheta_{max}/\tau$) of the maximum permissible lag error ($\Delta\vartheta_{max}$) and a time constant (τ) of the

measuring cell (MC) for a temperature equalization between the interior of the measuring cell and the water bath (WB), and
controlling with a control device the permissible maximum value of the time-wise drift (α_{max}) of the temperature (ϑ_B) of the water bath by maintaining a low-lag and quickly controllable compensation of the heat currents (P±) flowing into and out of the water bath (WB) such that the resulting quantity of the residual heat current (P_{rest}) does not exceed a predetermined maximum value ($P_{restmax}$).

Similarly, independent claim 27, as amended, recites

...

a control device for controlling the actual temperature (ϑ_b) of the water bath at high repetitive accuracy and at a maximum permissible lag error ($\Delta\vartheta_{max}$) between the water bath and sample temperature (ϑ_b, ϑ_p) determined by the accuracy demanded by the determination of salinity (S) as the equivalent of the temperature (ϑ_p) of the sample, the control parameter for taking into account the thermal conditions being the time-wise drift ($\alpha = \Delta\vartheta_B/t$) of the temperature ($\vartheta_b$) of the water bath the permissible maximum value (α_{max}) of which is defined as the quotient ($\alpha = \Delta\vartheta_{max}/_T$) of the maximum permissible lag error ($\Delta\vartheta_{max}$) and a time constant ($_T$) of the measuring cell (MC) for a temperature balancing between the interior of the measuring cell and the water bath (WB), and

means for low-lag and quick adjustment of heat currents (P±) flowing into and out of the water bath (WB) for maintaining a permissible maximum value of the time-wise drift (α_{max}) of the temperature (ϑ_b) of the water bath such that the quantity of the resulting residual heat current (P_{rest}) does not exceed a corresponding predetermined maximum value ($P_{restmax}$).

It is respectfully submitted that Dauphinee does not teach or suggest the above-recited features of amended independent claims 20 and 27, and the Office has not identified specific support in Dauphinee for establishing that these features are taught or suggested by Dauphinee. Specifically, Dauphinee does not teach or suggest at least controlling the permissible maximum value of time-wise drift ($\alpha_{max} = \Delta\vartheta_{max}/_T$) of the temperature ($\vartheta_B$) of the water bath by heat current compensation, as required by claims 20 and 27. In contrast, as

acknowledged by the Office, Dauphinee merely describes "controlling the water bath at a uniform temperature." See Office Action dated March 23, 2010, page 4. Dauphinee attemps to maintain a constant bath temperature, since as is known, temperature affects conductivity measurement. As discussed in the present specification, a constant, stable water bath temperature was required in the prior art to ensure accuracy of salinity measurement. Such maintaining of a constant temperature is difficult. The present invention avoids this problem by permitting temperature fluctuation and instead takes into account a maximun permissible lag error ($\Delta\vartheta_{max}$) between the temperature, by controlling the time-wise drift (α) of the bath temperature. This control method permits, in contrast to the prior art, the salinity measurement to be carried out in a normal laboratory. See original Specification as filed at page 4, lines 1-29, page 6, lines 1-8, and page 9, lines 1-4. Thus, Dauphinee, as other known prior art, is concerned with maintaining a uniform temperature. Dauphinee accordingly nowhere teaches or suggests controlling a permissible maximum value of the time-wise drift ($\alpha = \Delta\vartheta_{max}/_{T}$) to determine salinity as required by claims 20 and 27. Nor do either BATS methods or Brown teach or suggest the features of claims 20 and 27 that are missing from Dauphinee. BATS methods is merely describes to a procedure for determining seawater salinity using a model 8400A Autosal Salinometer. See BATS methods, Chapter 5, Sections 1.0 and 4.0. Brown merely describes a salinometer using various compensating means. See Brown, Abstract. Therefore, because Dauphinee, BATS methods and Brown fail to teach or suggest at least the above-recited features of claims 20 and 27, any combination of Dauphinee, BATS methods, and Brown, to the extent proper, could not render claim 20 or 27 or any of their respective dependent claims 21-26 or 28-38 obvious.

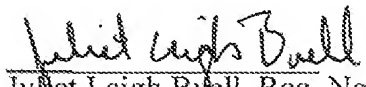
Reconsideration and withdrawal of the rejection of claims 20-25 and 27-37 under 35 U.S.C. § 103(a) based on Dauphinee, claim 26 under 35 U.S.C. § 103(a) based on Dauphinee in view of BATS methods, and claim 38 under 35 U.S.C. § 103(a) based on Dauphinee in view of Brown is respectfully requested for at least the reasons set forth above.

Conclusion

Applicant respectfully submits that the patent application is in condition for allowance. If, in the opinion of the Examiner, a telephone conference would expedite the prosecution of the subject application, the Examiner is invited to call the undersigned attorney.

The Commissioner is hereby authorized to charge any unpaid fees deemed required in connection with this submission, including any additional filing or application processing fees required under 37 C.F.R. §1.16 or 1.17, or to credit any overpayment, to Deposit Account No. 12-1216.

Respectfully submitted,



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Electronic Patent Application Fee Transmittal

Application Number:	10009971
Filing Date:	30-Oct-2001
Title of Invention:	Method for determining the salt content of liquid and device for carrying out said method
First Named Inventor/Applicant Name:	Klaus Ohm
Filer:	Juliet Leigh Buell/Saunder Yipp
Attorney Docket Number:	810217(21381/0212114-US0)

Filed as Large Entity

U.S. National Stage under 35 USC 371 Filing Fees

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Extension - 1 month with $0 paid	1251	1	130	130

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
			Total in USD ($)	130